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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,359	11/06/2002	Stephane Lascaud	AB-1189 US	8637

7590

04/29/2005

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EXAMINER

HODGE, ROBERT W

ART UNIT	PAPER NUMBER
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1746

DATE MAILED: 04/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/030,359

Applicant(s)

LASCAUD ET AL.

Examiner

Robert Hodge

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 November 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/7/03</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: The disclosure should be divided into subsections, including but not limited to: Background of the Invention, Summary of the Invention, Brief Description of Drawings and Detailed Description of the Preferred Embodiments. And the following Polymer abbreviations must first be spelled out as to their specific chemical formulas before abbreviations can be appropriately used: PVDF, PHFP, PCTFE, PTFE, PVF₂, PVF.

Appropriate correction is required.

Claim Objections

2. Claim 4 is objected to because of the following informalities: The following Polymer abbreviations must first be spelled out as to their specific chemical formulas before abbreviations can be appropriately used: PVDF, PHFP, PCTFE, PTFE, PVF₂, PVF. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. Claims 1-8, 11-13 and 18 rejected under 35 U.S.C. 102(b) as being anticipated by Takatera et al. European Patent Application No 0893836 hereinafter Takatera et al.

5. Takatera et al. teaches a solid-state electrochemical generator (secondary battery), having a positive electrode comprising graphite or acetylene black and salts of transitions metals with a polymer electrolyte containing a Lithium salt and comprising a fluoropolymer in the various mass ratios, and weight percents listed in claims 1-3 (column 3, lines 33-50, column 4, lines 9-30, column 5, lines 7-45, column 8, lines 3-57 and examples 1-3 and 10). Takatera et al. also teaches that said fluoropolymer is not limited and can include: "polyvinylidene fluoride, polyvinyl fluoride, polytetrafluoroethylene, polyhexafluoropropylene, and copolymers and terpolymers derived from plural kinds of monomers selected from the group consisting of vinylidene fluoride, vinyl fluoride, tetrafluoroethylene and hexafluoropropylene" (column 5, lines 7-18), which also contains a polyether which is also not limited and is based on polyethylene oxide or polypropylene oxide (column 4, lines 9-26). Takatera et al. teaches that the positive electrode active material comprises an oxide of the following elements, but is not limited to such elements: vanadium, manganese, nickel and cobalt (column 8, line 21) and a matrix of a polymer electrolyte (column 8, lines 15-17). Takatera et al. also teaches that the negative electrode is a lithium electrode (column 8, line 54-56). Takatera et al. further teaches that the electrolyte comprise magnesia in the specified ratios of claim 13 (column 5, lines 43 and 47).

Claim Rejections - 35 USC § 103

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6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takatera et al. in view of Abraham et al. U.S. Patent No 5,491,041 hereinafter Abraham et al.

8. Takatera et al. teaches everything in the above 102 rejection.

9. Takatera et al. does not teach that the positive electrode has a certain thickness and that the active material be in a specific proportion according to claims 9 and 10.

10. Abraham et al. teaches that an electrode has a thickness of 2.5 mil (or 63.5 μm) and has a proportion of active material within the ranges in claims 9 and 10 (examples 4 and 5).

11. At the time of the invention it would have been obvious to a person of ordinary skill in the art to provide an electrode with a preferred thickness and active material proportions as taught by Abraham et al. in the Takatera et al. reference in order to provide a thin electrode that can be used in small applications where space is a limited commodity with an optimized proportion of active material, which will in turn make efficient use of the battery and thus have an extended battery life.

12. Claims 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takatera et al. in view of Padoy et al. U.S. Patent No. 5,507,965 hereinafter Padoy et al.

13. Takatera et al. teaches everything in the above 102 rejection.

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14. Takatera et al. does not teach that the electrolyte be formed by extrusion of that it comprise an antioxidant.

15. Padoy et al. teaches the use of extrusion for forming the electrolyte (column 2, line 47) as well as antioxidants including but not limited to those in the phenolic family within the specified ratios of claim 16 (column 2, lines 51-62, column3, lines 23-38 and claims 1-4).

16. At the time of the invention it would have been obvious to a person of ordinary skill in the art to form the electrolyte by extrusion and to include phenolic antioxidants in the polymeric electrolyte as taught by Padoy et al. in the Takatera et al. in order to use a well known production process to form the electrolyte as well as to prevent "yellowing" or otherwise known as the formation of free radicals in the electrochemical reaction which would in turn cause the rapid deterioration of the layers associated with the electrolyte and thus cause the battery to fail prematurely.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Hodge whose telephone number is (571) 272-2097. The examiner can normally be reached on 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on (571) 272-1414. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RWH 4-26-05

A handwritten signature in black ink, appearing to read "Michael Barr", with a stylized flourish extending from the end.

MICHAEL BARR
SUPERVISORY PATENT EXAMINER